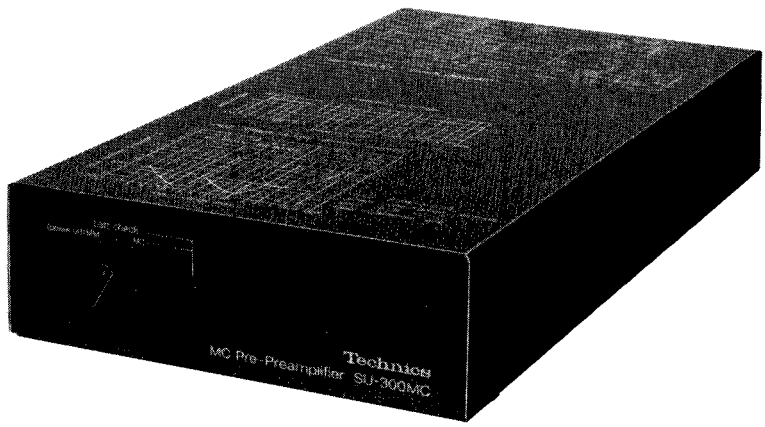
ORDER NO. SD7804-1319

Service Manual

SU-300MC

MC Pre-Preamplifier
SU-300MC
(XA)



- The model SU-300MC(XA) is available in Asia, Latin America, Middle East and Africa only.

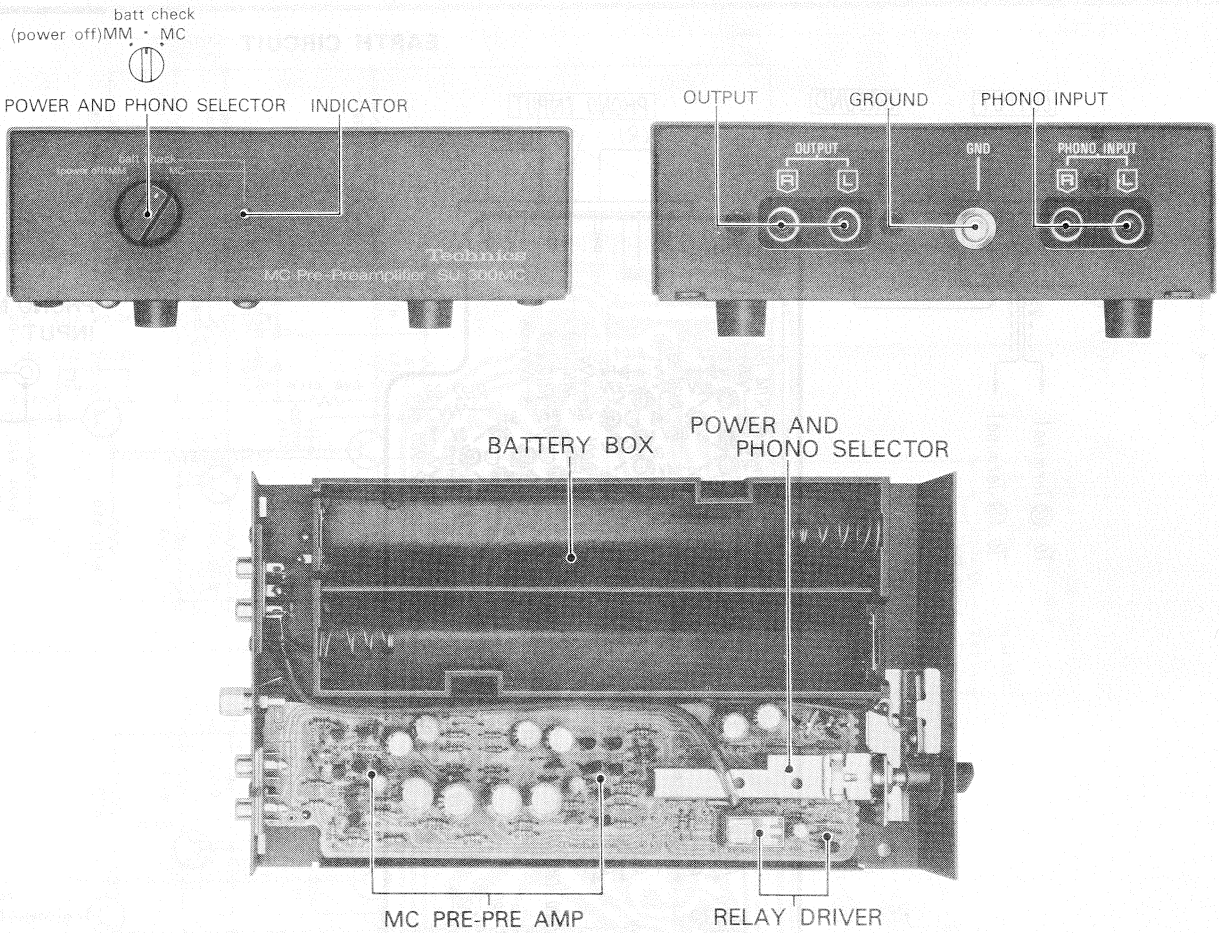
TECHNICAL SPECIFICATIONS (Specifications are subject to change without notice for further improvement.)

Voltage gain	28dB(MC)/0dB(MM)
Input impedance	47Ω
Equivalent noise level at the input	−150dBV
S/N (IHF, A)	
	78dB (250μV Input)
	70dB (100μV Input)
Frequency response	20Hz~20kHz $^{+0}_{-0.5}$dB
	8Hz~300kHz $^{+0}_{-3}$dB
Total harmonic distortion	0.01% (with Technics SU-9070 stereo flat preamplifier)
Power supply	DC4.5V×2(±4.5V) Batteries: six UM-1(size D)
Power consumption	450mW
Battery life	about 200 hours (used 2 hours daily) (Based on use of National Panasonic Hi-Top batteries at 20°C ambient temperature. Battery lift decreases at ambient temperature of 5°C or less.)
Dimensions (W×H×D)	140×55×265 mm
Weight	1.1kg
Accessory	Connection cord ····· 1

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

■ LOCATION OF CONTROLS



■ TO REMOVE CABINET AND PRINTED CIRCUIT BOARD

1. Using a coin or similar object, remove the two screws (① in fig. 1)
2. Set the unit upright. The amplifier cabinet can be removed by pulling it slightly toward you until it hits something, and then lifting it upward. (Refer to fig. 2)
3. Pull off the knob of selector switch, and remove the screw (② in fig. 3) holding the indicator.
4. Remove the screw (③ in fig. 3) holding the player input terminal reinforcement fitting.
5. When the two screws (④ in fig. 3) holding the printed-circuit board and the selector switch are removed, the printed-circuit board can be removed.
6. The amplifier cabinet and printed-circuit board can be installed by following these steps in reverse.

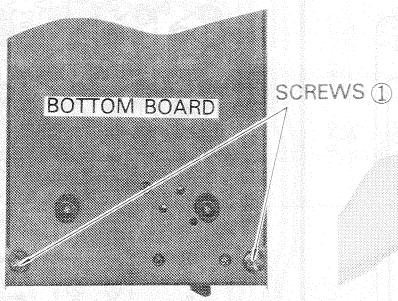


Fig. 1

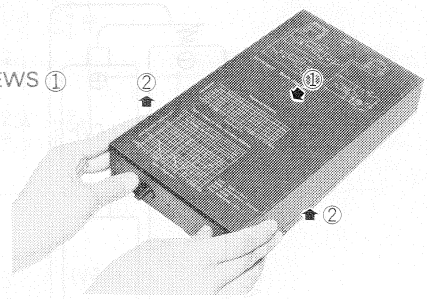


Fig. 2

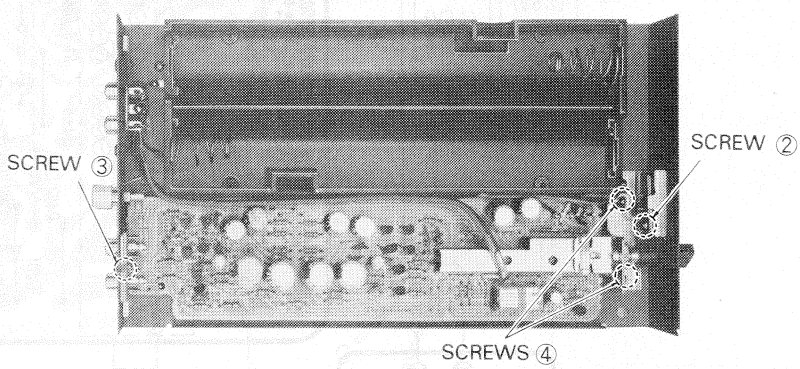
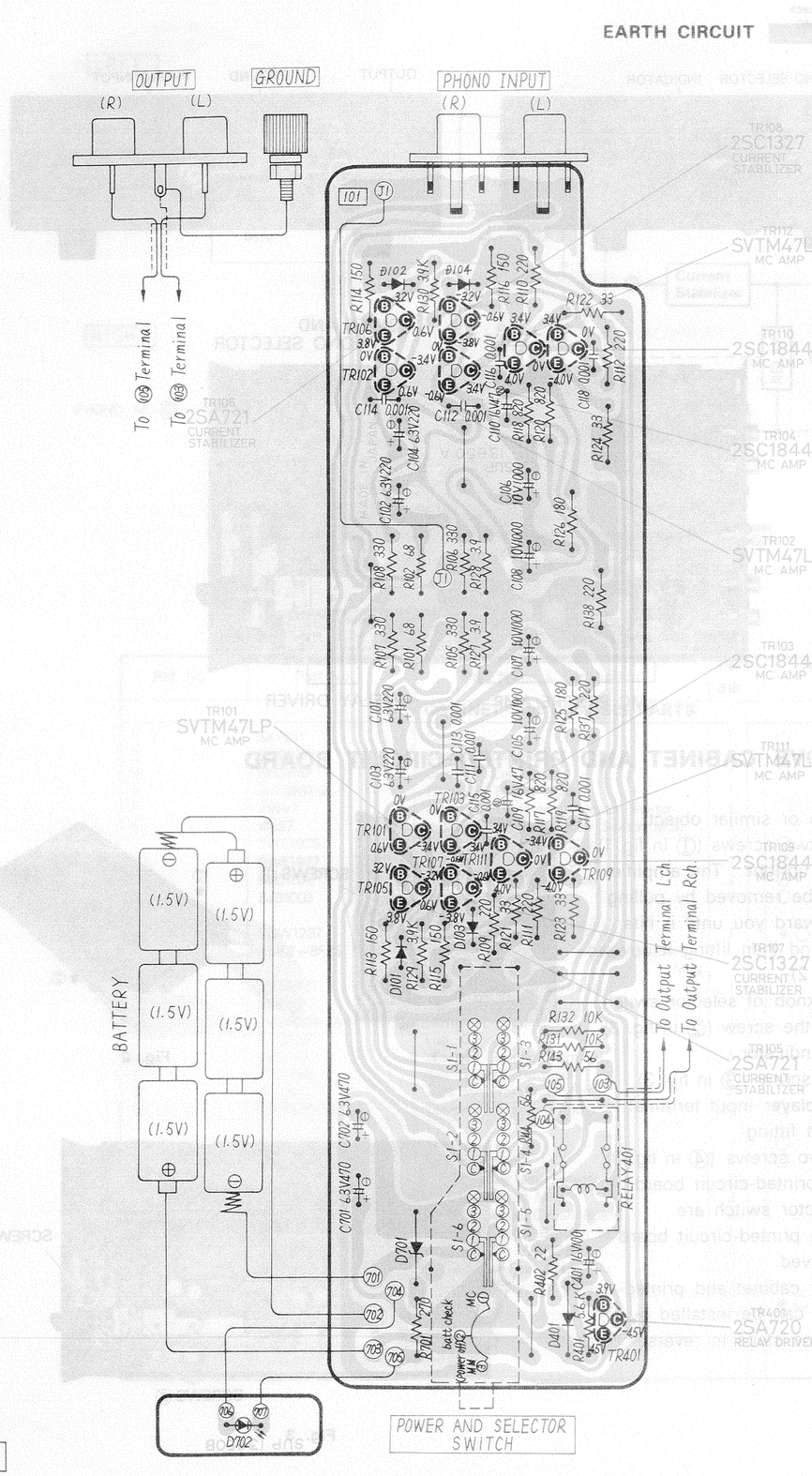
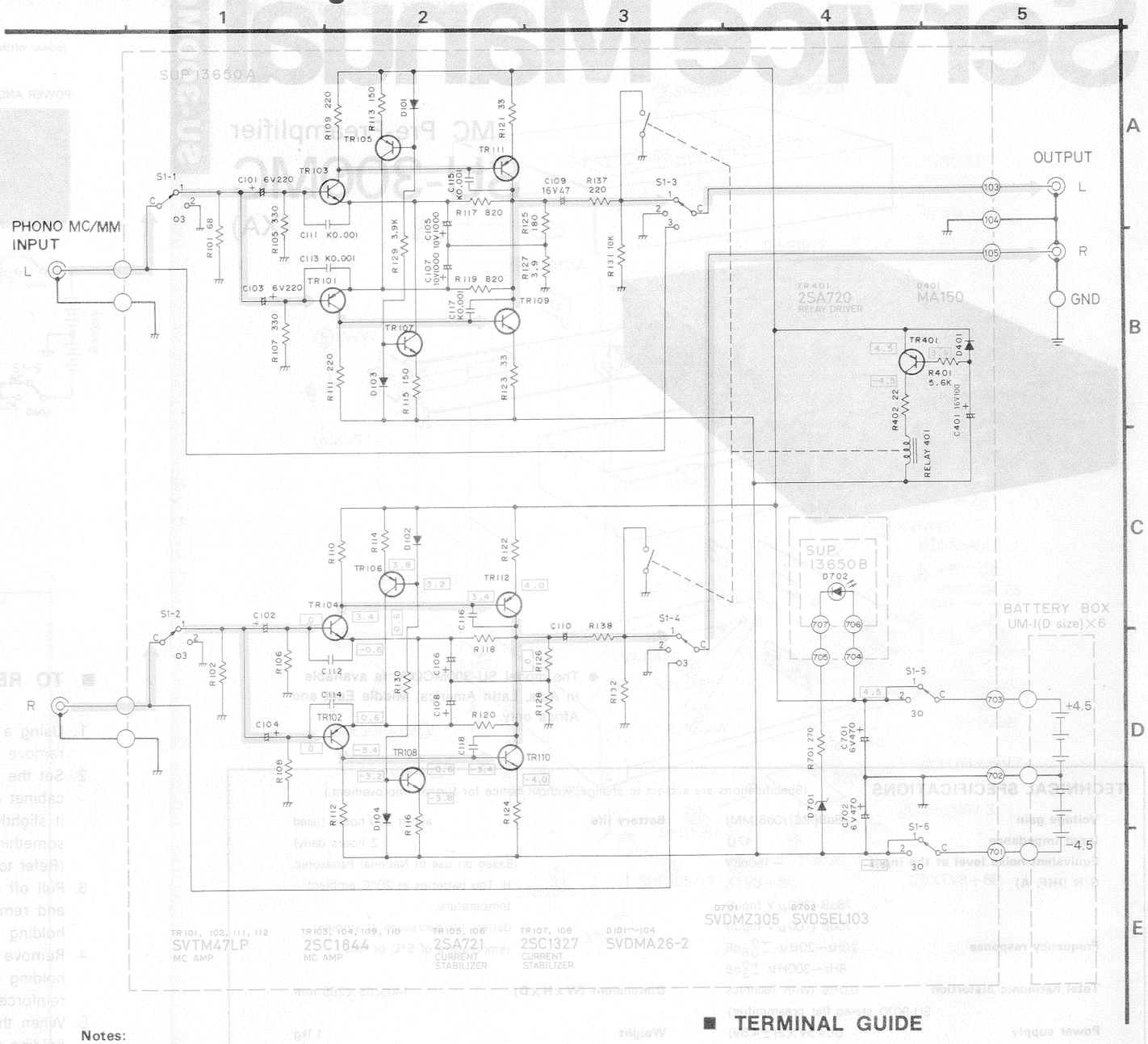


Fig. 3

Printed Circuit Board



Schematic Diagram ····· Model SU-300MC

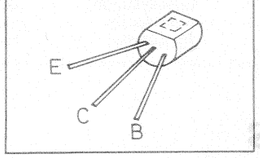


Notes:

1. **S1-1~S1-6:** Power and phono selector switch in **"MC"** position
   ③MM(Power off) ⟷ ②batt check ⟷ ①MC
2. ☐ Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
3. The left and right channels use the same type of circuitry. The resistors, capacitors, etc, used for the right channel (schematic diagram below) are the same as for the left channel.
4. ➡ Phono Signal lines.

■ TERMINAL GUIDE

SVTM47LP, 2SC1844
2SA721 , 2SC1327
2SA720

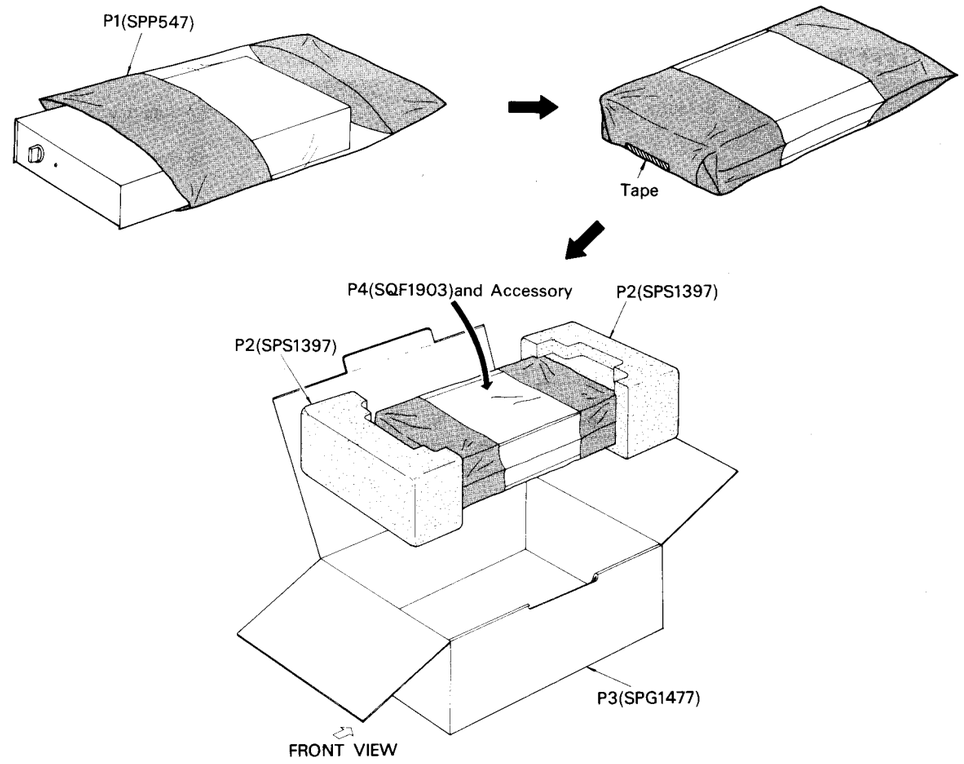


■ REPLACEMENT PARTS LIST

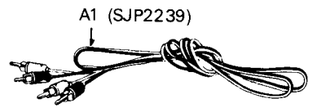
NOTE: Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
TRANSISTORS					
TR101, 102, 111 112	SVTM47LP	Transistor, MC Amplifier	4		
TR103, 104, 109 110	2SC1844	Transistor, MC Amplifier	4		○
TR105, 106	**2SA902S-F**	Transistor, Current Stabilizer	2		
TR107, 108	**2SC1328-T**	Transistor, Current Stabilizer (Use in ranks S, T or U)	2		
TR401	2SA720-R	Transistor, Relay Driver (Use in ranks Q or R)	1		
DIODES					
D101, 102, 103 104	SVDMA26-2	Diode	4		
D401	MA150	Diode	1		
D701	SVDMZ305C	Diode, Battery Cheak	1		
D702	SVDSEL103S	Diode, Battery Check Indicator	1		
SWITCH					
S1	SSR79-1	Switch, Power and Selector	1		○
RELAY					
RELAY401	SSY55	Relay, Muting	1		○
RESISTORS					
R101, 102	**ERD25TJ680**	Carbon, 68Ω, 1/4W, ±5%	2		
R105, 106	**ERD25TJ331**	Carbon, 330Ω, 1/4W, ±5%	2		
R107, 108	**ERD25TJ331**	Carbon, 330Ω, 1/4W, ±5%	2		
R109, 110	ERO25CKG2200	Metal Film, 220Ω, 1/4W, ±2%	2		
R111, 112	ERO25CKG2200	Metal Film, 220Ω, 1/4W, ±2%	2		
R113, 114	ERO25CKG1500	Metal Film, 150Ω, 1/4W, ±2%	2		
R115, 116	ERO25CKG1500	Metal Film, 150Ω, 1/4W, ±2%	2		
R117, 118	**ERD25TJ821**	Carbon, 820Ω, 1/4W, ±5%	2		
R119	**ERD25TJ821**	Carbon, 820Ω, 1/4W, ±5%	1		
R120	**ERD25TJ560**	Carbon, 56Ω, 1/4W, ±5%	1		
R121, 122	ERO25CKG33RO	Metal Film, 33Ω, 1/4W, ±2%	2		
R123, 124	ERO25CKG33RO	Metal Film, 33Ω, 1/4W, ±2%	2		
R125, 126	**ERD25TJ181**	Carbon, 180Ω, 1/4W, ±5%	2		
R127, 128	**ERD25TJ3R9**	Carbon, 3.9Ω, 1/4W, ±5%	2		
R129, 130	**ERD25TJ392**	Carbon, 3.9kΩ, 1/4W, ±5%	2		
R131, 132	**ERD25TJ103**	Carbon, 10kΩ, 1/4W, ±5%	2		
R137, 138	**ERD25TJ221**	Carbon, 220Ω, 1/4W, ±5%	2		
R143, 144	**ERD25TJ560**	Carbon, 56Ω, 1/4W, ±5%	2		
R401	**ERD25TJ562**	Carbon, 5.6kΩ, 1/4W, ±5%	1		
R402	**ERD25TJ220**	Carbon, 22Ω, 1/4W, ±5%	1		
R701	**ERD25TJ271**	Carbon, 270Ω, 1/4W, ±5%	1		
CAPACITORS					
C101, 102	ECEA6A220	Electrolytic, 220μF, 6.3V	2		
C103, 104	ECEA6A220	Electrolytic, 220μF, 6.3V	2		
C105, 106	ECEA10A102	Electrolytic, 1000μF, 10V	2		
C107, 108	ECEA10A102	Electrolytic, 1000μF, 10V	2		
C109, 110	ECEA16NA47	Electrolytic, 47μF, 16V	2		
C111, 112	ECKD1H102KB	Ceramic, 0.001μF, ±10%	2		
C113, 114	ECKD1H102KB	Ceramic, 0.001μF, ±10%	2		
C115, 116	ECKD1H102KB	Ceramic, 0.001μF, ±10%	2		
C117, 118	ECKD1H102KB	Ceramic, 0.001μF, ±10%	2		
C401	ECEA16A100	Electrolytic, 100μF, 16V	1		
C701, 702	ECEA6A470	Electrolytic, 470μF, 6.3V	1		

■ PACKINGS

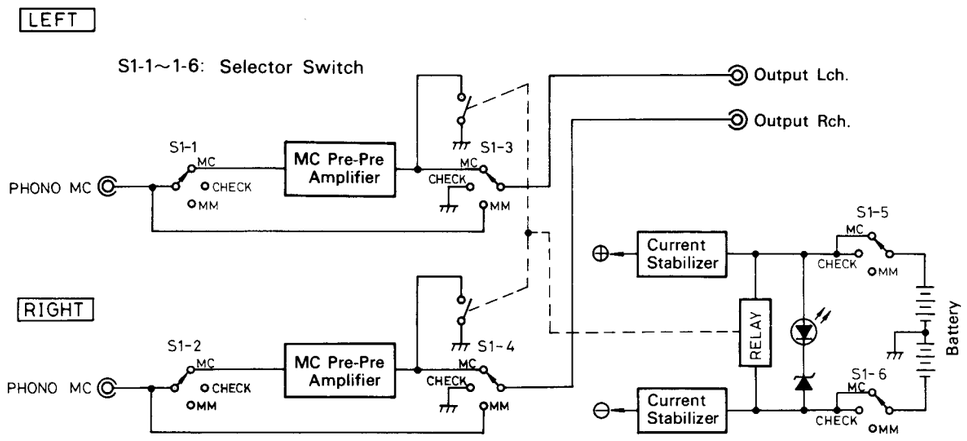


■ ACCESSORY



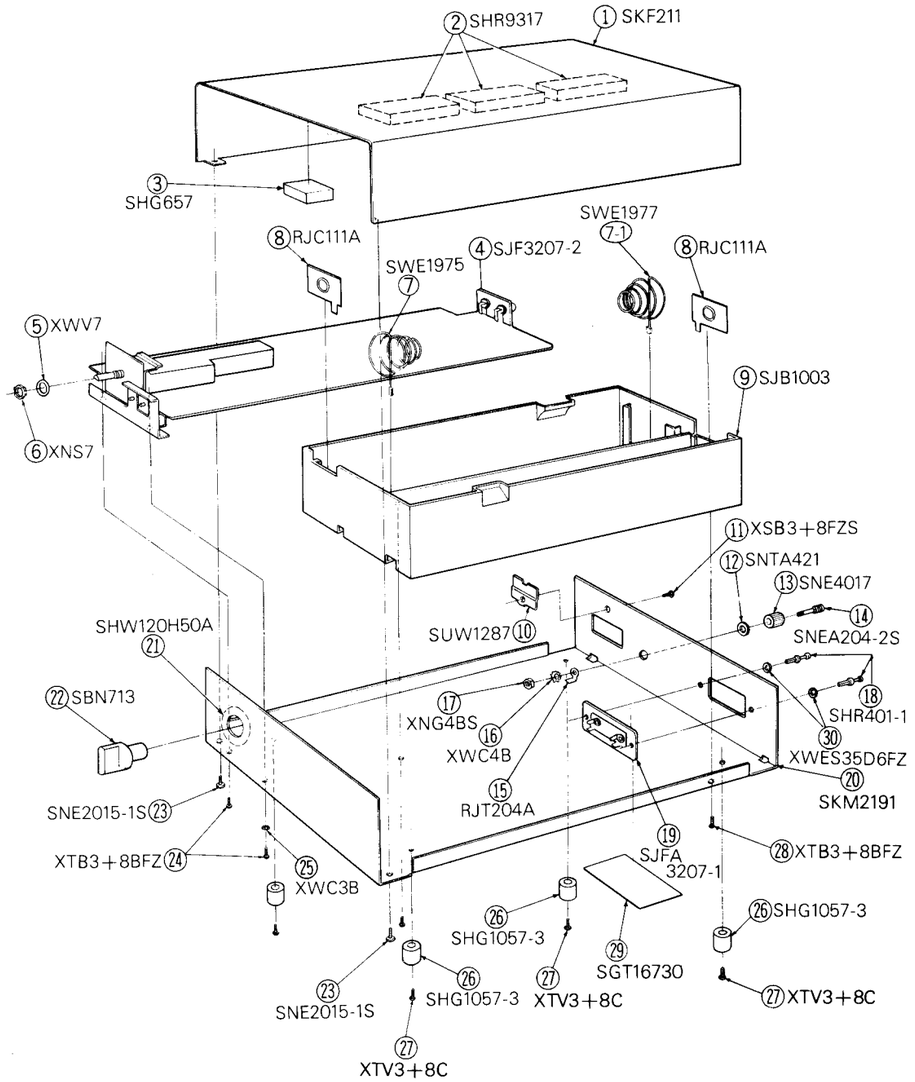
Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
ACCESSORY					
A1	SJP2239	Cord, Connection Shield	1		○
PACKING PARTS					
P1	SPP547	Polyethylene Bag	1		○
P2	SPS1397	Pad, Front and Back Side	2		○
P3	SPG1477	Carton Box	1		○
P4	SQF1903	Instruction Book, Printed Matter	1		○

■ BLOCK DIAGRAM



Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
		CABINET and CHASSIS PARTS		
1	SKF211	Cabinet	1	○
2	SHR9317	Cushion, Cabinet	3	○
3	SHG657	Cushion, Cabinet	1	○
4	SJF3207-2	Terminal, Phono Input	1	
5	XWV7	Washer, Power and Selector Switch	1	
6	XNS7	Nut, Power and Selector Switch M'tg	1	
7	SWE1975	Battery Spring, (−) Side	1	○
7-1	SWE1977	Battery Spring, (−) Side	1	○
8	RJC111A	Battery Spring, (+) Side	2	○
9	SJB1003	Battery Box	1	○
10	SUW1287	Bracket, Phono Input Terminal	1	* ○
11	XSB3+8FZS	Screw, Phono Input Terminal Bracket M'tg	1	
12	SNTA421	Washer, Ground Terminal	1	
13	SNE4017	Terminal, Ground	1	
14	SNEA204-2S	Terminal, Ground	1	
15	RJT204A	Lug, Ground	1	
16	XWC4B	Washer, Ground Terminal	1	
17	XNG4BS	Nut, Ground Terminal	1	
18	SHR401-1	Lock Pin, Terminal M'tg	2	
19	SJFA3207-1	Terminal, Phono Output	1	○
20	SKM2191	Chassis	1	○
21	SHW120H50A	Shading Cloth	1	○
22	SBN713	Knob, Power and Selector	1	
23	SNE2015-1S	Screw, Cabinet M'tg	2	
24	XTB3+8BFZ	Screw, Printed Circuit Board	2	
25	XWC3B	Washer, Switch Bracket M'tg	1	
26	SHG1057-3	Foot, Set	4	
27	XTV3+8C	Screw, Set Feet M'tg	4	
28	XTB3+8BFZ	Screw, Battery Box M'tg	2	
29	SGT16730	Name Plate	1	* ○
30	XWES35D6FZ	Washer, Phono Output Terminal Screw	2	

■ EXPLODED VIEWS



Printed in Japan
78041200 ⊗